Section G

Spent Nuclear Fuel

PROJECT MANAGERS

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DOE/RL-2000-76, Rev. 18

INTRODUCTION

The Spent Nuclear Fuel (SNF) Project consists of Project Baseline Summary (PBS) RL-RS03, Work Breakdown Structure (WBS) 3.2.3.

NOTE: Unless otherwise noted, all information contained herein is as of the end of April 2002.

Fiscal year (FY) to date milestone performance (EA, HQ, and RL) shows one milestone overdue.

NOTABLE ACCOMPLISHMENTS

Fuel Movement Activities — Activities included:

During this reporting period, eight Multi-Canister Overpacks (MCOs) containing 37.25 Metric Tons of Heavy Metal (MTHM) were shipped from K West (KW) (61 MCOs and 285.81 MTHMs, cumulatively). To date, the SNF Project is 33 working days (17 MCOs, 79.62 MTHM) behind the baseline schedule commitment to move 720.1 MTHM by the end of fiscal year (FY) 2002. The project is on schedule for completion of all fuel movement by July 2004.

FTS Construction — Activities included:

- Factory Acceptance Testing of the Fuel Transfer System (FTS) lift tables, straddle carriers, and rails are underway in Ogden, UT.
- Completed K East (KE) and KW Annexes.
- Received the first Transfer Cask Assembly (TCA). The TCA is being utilized during the Factory Acceptance Testing.
- KE and KW facility modifications base scopes are substantially complete.

Sludge Water System— Activities included:

- Completed 90 percent design packages for KE in-basin modifications, large diameter containers (LDC) and casks.
- Released the Request for Proposal (RFP) for the in-basin fabrication.
- Released casks and trailers for fabrication.

Facility Activities — Activities included:

- The Cold Vacuum Drying Facility (CVDF) completed maintenance outage five.

Sludge Handling Modification Activities — Activities included:

- Cleaned out three of four cells.
- Installed leveling frames in two cells (3L and 10L).

Canister Cleaner Operations — Activities included:

- Removed 127 (179 cumulatively) canisters and prepared for shipment and disposal.

NOTABLE ACCOMPLISHMENTS (CONTINUED)

Site-Wide Activities — Activities included:

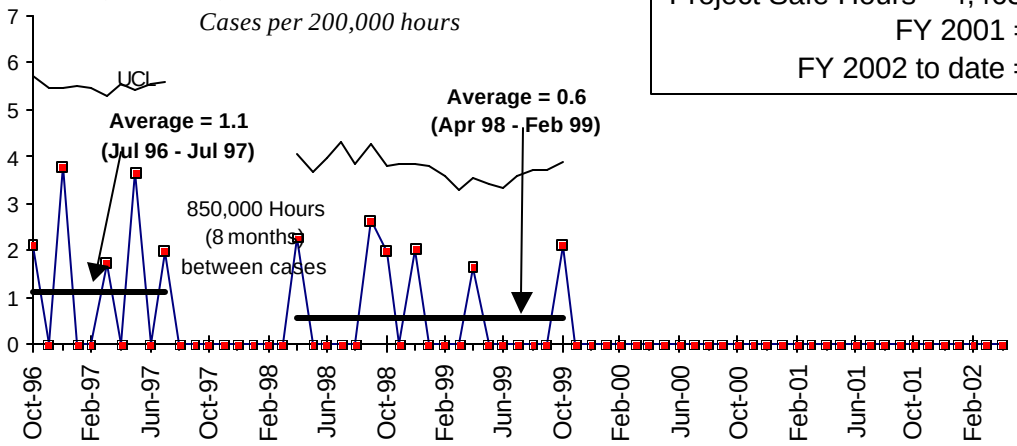
- Completed 200 Area Interim Storage Area (ISA) Readiness Assessment.
- Completed 200 Area ISA dry runs for receipt of Neutron Radiography Facility (NRF) Training Research along with Isotope Production General Atomics (TRIGA) fuel.
- Completed receipt of second fuel shipment from F Reactor Basin.

Key Integration Activities — Activities included:

- The SNF Project continued support to 324 Building (B Cell) Fuel Removal (the River Corridor Project).
- Activities continued for receipt of any SNF potentially discovered by Bechtel Hanford Inc. during upcoming 105F and 105H reactor basins deactivation at K Basins.
- The Sludge Handling Project and T Plant Operations continued preparations for K Basin sludge storage at T Plant.

SAFETY

No Lost Away Workday injuries were reported within the SNF Project, thus allowing an achievement of more than 4.4 million safe work hours by the end of April 2002. This performance can be attributed to the effective implementation of the Integrated Safety Management (ISM) System core functions of management commitment and worker involvement.

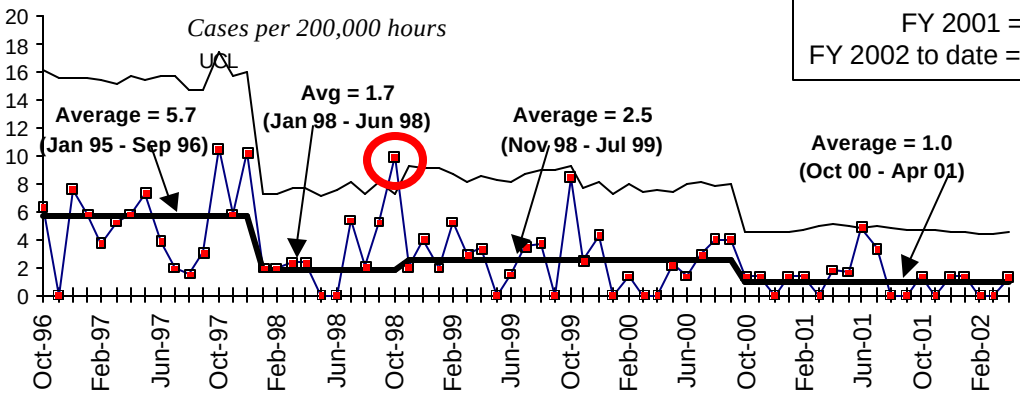


Project Safe Hours = 4,463,673
FY 2001 = 0.0
FY 2002 to date = 0.0

Green

SAFETY (CONTINUED)

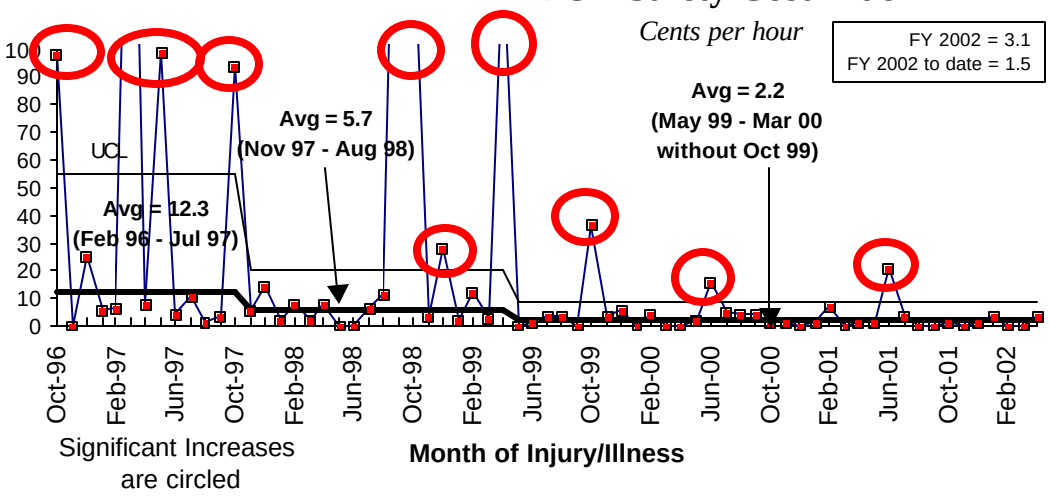
OSHA Recordable Case Rate



FY 2001 = 1.4
FY 2002 to date = 0.8

Green

DOE Safety Cost Index



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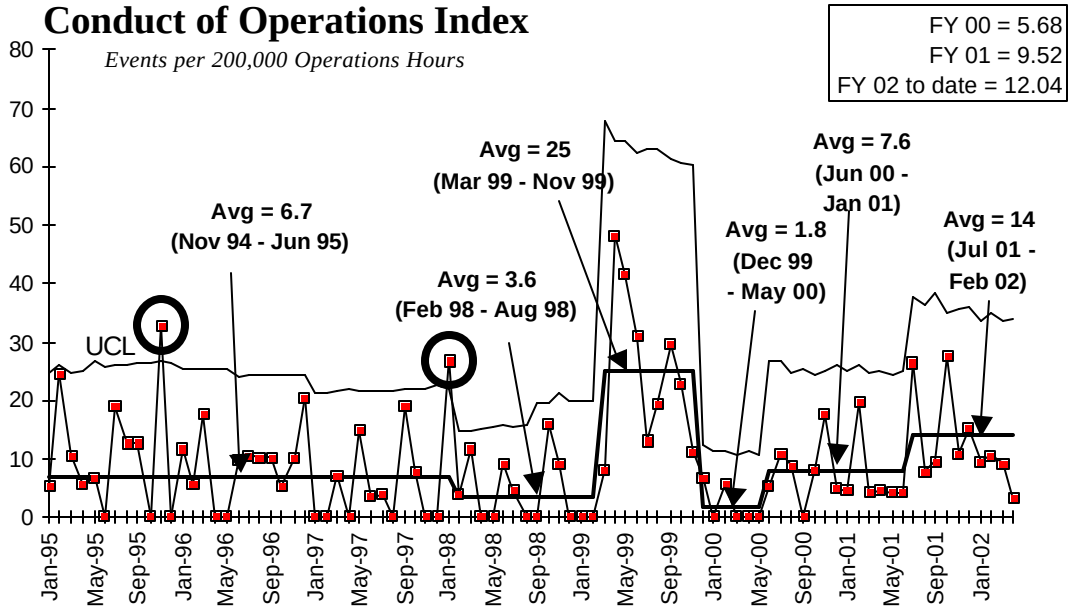
Significant Increases are circled

Month of Injury/Illness

CONDUCT OF OPERATIONS



A CONOPs Improvement Plan with action items has been prepared. Selective senior supervisor oversight is being used in KW for complex evolutions. Procedures are being identified for improvement and progress for change incorporation has begun. Operation team reviews for each shift have been requested for review and feedback of procedure changes. Individual actions regarding non-procedure compliance are being acted on as appropriate within the Human Resources program at the site. Lessons are being shared to call attention to appropriate actions that are expected.

Maintenance lessons learned from the April outage have been prepared and recommendations for improvement are being implemented.

BREAKTHROUGHS / OPPORTUNITIES FOR IMPROVEMENT

Breakthroughs

Nondestructive Evaluation (NDE) of Contamination in the K East Basin Walls and Floors — A significant activity necessary to deactivate the 100 Area KE Basin, is to characterize the level of contamination in the basin's unsealed concrete walls and floor. This characterization data will be used to help determine the methods to be applied in completing the deactivation of the basin, once fuel and sludge have been removed.

The SNF Project will be using a nondestructive (gamma scanning) technique and detector system, developed by the Pacific Northwest National Laboratory, to acquire data on the depth of radionuclide penetration in the basin's concrete walls and floors. This is the first time the NDE technique will be used to obtain characterization data with the facility in normal operation, with its full inventory of fuel, sludge and contaminated water. If successful, the data will be used, in conjunction with other information, to determine which deactivation methods can realistically be used to remove/reduce the radiological dose/contamination, as well as to determine which basin areas are in the most need of mitigation. This detection system has been constructed, tested under laboratory conditions and is ready for deployment into the KE Basin.

Breakthroughs / Opportunities for Improvement (Continued)

Opportunities for Improvement

Flowmeter — SNF Project engineers have identified the replacement of the magnetic flowmeter to an ultrasonic flowmeter used for the P-2 pump. This will allow the production to regain wash time by reducing it from 15 minutes to between five and ten minutes in the Primary Clean Machine (PCM). This replacement and testing is expected to be complete by the end of May 2002.

Upcoming Activities

Fuel Movement — Continue removal and processing of SNF.

Fuel Movement — Continue implementing process improvements to decrease time necessary to load and process fuel in MCOs.

SWS Design — Complete large diameter containers (LDC) trailer 100 percent design by June 19, 2002.

FTS Construction — Complete FTS Construction by June 2002.

ISA Pad — Complete LWR SNF Receipt at 200 Area ISA Standard Startup Review in July 2002.

SWS Construction — Complete first STS cask fabrication July 8, 2002.

SWS Construction — Receive cask and container for sludge in August 2002.

SWS Construction — Complete SWS construction by September 30, 2002.

MILESTONE ACHIEVEMENT

Number	Milestone Title	Type (TPA/DN FSB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-06-T01	Initiate K West (KW) Basin Spent Nuclear Fuel Canister Cleaning Operations	TPA	08/31/01	3/15/02	3/15/02	Complete
M-34-16	Initiate removal of KW Basin SNF	ALL	11/30/00	12/7/00		Complete
M-34-29	Complete K East (KE) Basin and KW Basin facility modifications for AFTS casks transportation system	TPA	3/31/02		06/11/02	Receiving equipment on May 20, 2002.
M-34-12-T01	Complete construction of SWS	TPA	09/30/02		09/30/02	On schedule
S10-99-950	Select K Basin Pool Decontamination Method	TIP	09/30/02		09/30/02	On schedule. Studies are currently being performed to determine method.
M-34-17	Initiate KE to KW fuel transfer	TPA	11/30/02		11/30/02	On Schedule
M-34-18A	Complete removal of 190 MCOs of SNF from the KW Basin	TPA/DNFSB	12/31/02		12/31/02	On Schedule. Currently 17 MCOs behind schedule. Actions are being taken to recover schedule.
M-34-08	Initiate full scale KE basin sludge removal	TPA/DNFSB	12/31/02		12/31/02	On Schedule
M-34-27-T01	Complete removal of 244 MCOs of SNF from KW Basin	TPA	5/31/03		5/31/03	On Schedule
S09-03-010	Decide treatment path for sodium removal from FFTF	TIP	09/30/03		09/30/03	On Schedule
M-34-28	Complete removal of 311 MCOs from the KW Basin	TPA	12/31/03		12/31/03	On Schedule
M-34-25-T01	Complete transfer of KE Basin SNF to KW Basin	TPA	5/31/04		5/31/03	On Schedule
M-34-18B	Complete removal of all K Basin SNF	ALL 3	7/31/04		7/31/04	On Schedule
M-34-10	Complete sludge removal from K Basins.	ALL 3	8/31/04		8/31/04	On Schedule
M-34-23	Start KE water removal	TPA	9/30/04		9/30/04	On Schedule

MILESTONE ACHIEVEMENT (CONTINUED)

Number	Milestone Title	Type (TPA/DNFSB/PI)	Due Date	Actual Date	Forecast Date	Status/ Comments
M-34-09-T01	Complete K Basins rack and canister removal	PI	1/31/05		1/31/05	On Schedule
M-34-24	Complete KE Basin Water removal	TPA	9/30/05		9/30/05	On Schedule
S06-06-006	Complete K Basin water removal	PI	4/30/06		4/30/06	On Schedule
M-34-22	Complete KW Basin water removal	TPA	8/31/06		8/31/06	On Schedule
S06-06-004	Complete transition activities for CVD and other facilities	PI	9/30/06		9/30/06	On Schedule
S06-06-005	Transfer of K Basins to the River Corridor Contractor	PI	9/30/06		9/30/06	On Schedule
S20-10-010	Select technology to prepare SNF MCOs for shipment and demonstrate	TIP	12/30/10		12/30/10	On Schedule

NOTE: Above data includes all TPA/DNFSB/Performance Incentive milestones as included in the FH baseline, and provides Contract-to Date status.

Performance Objectives

Move Fuel Away from the River

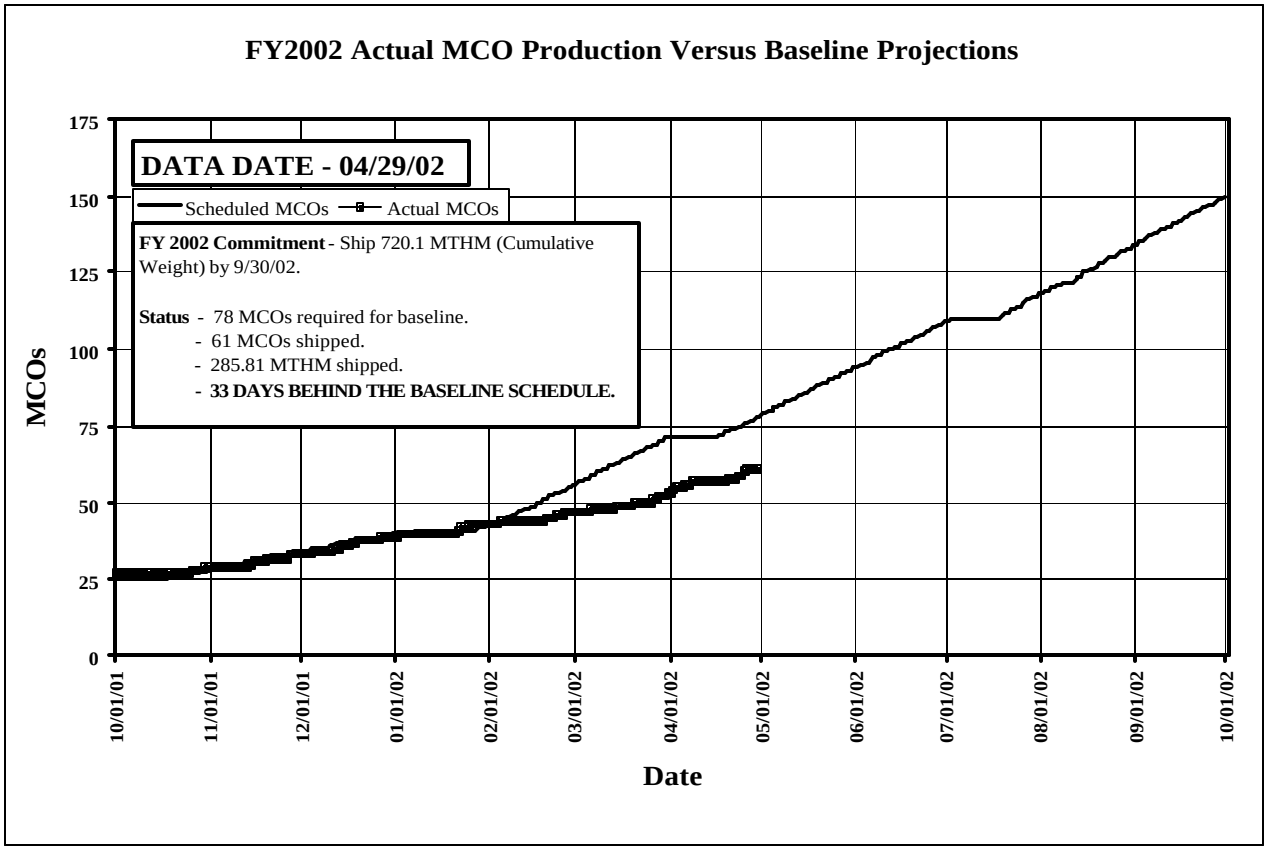
EXPECTATION: Remove spent fuel from K Basins

Move 720.1 Metric Tons Heavy Metal from KW Basin by end of FY 2002

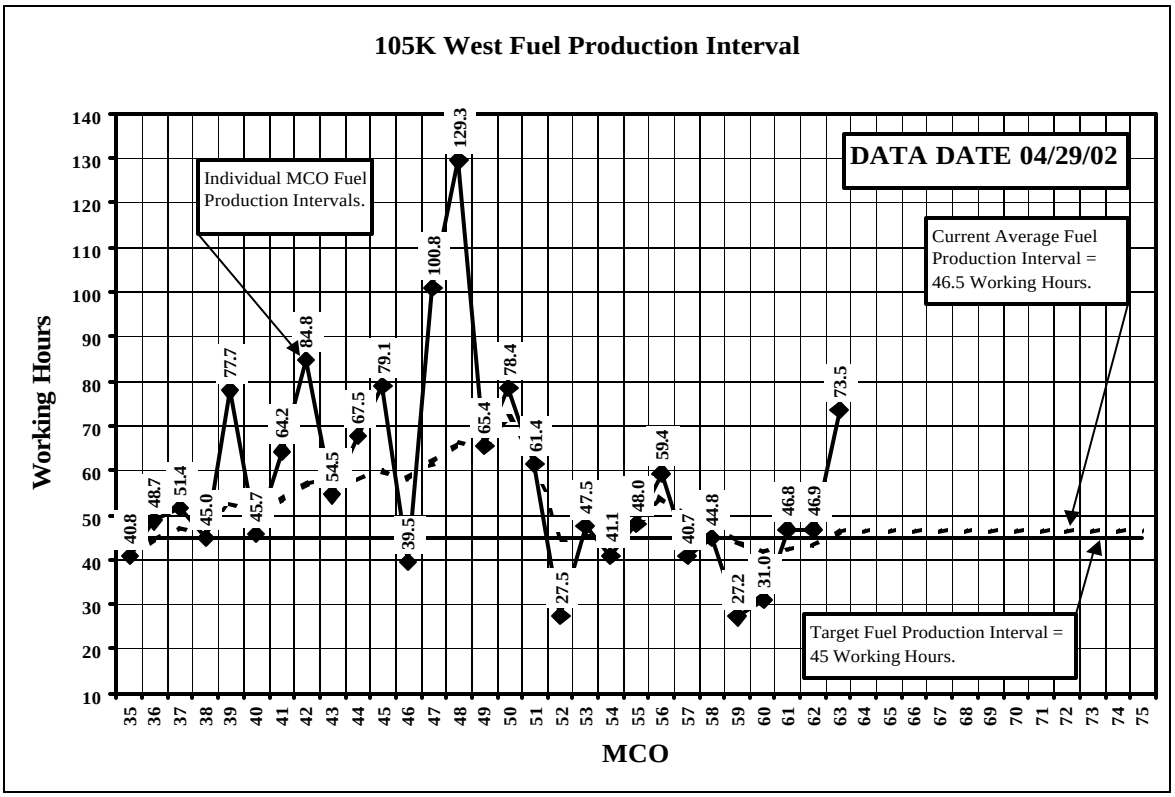
Status: A cumulative total of 61 MCOs containing 285.81 MTHM have been shipped. Currently 33 days (17 MCOs, 79.62 MTHM) behind the baseline schedule.

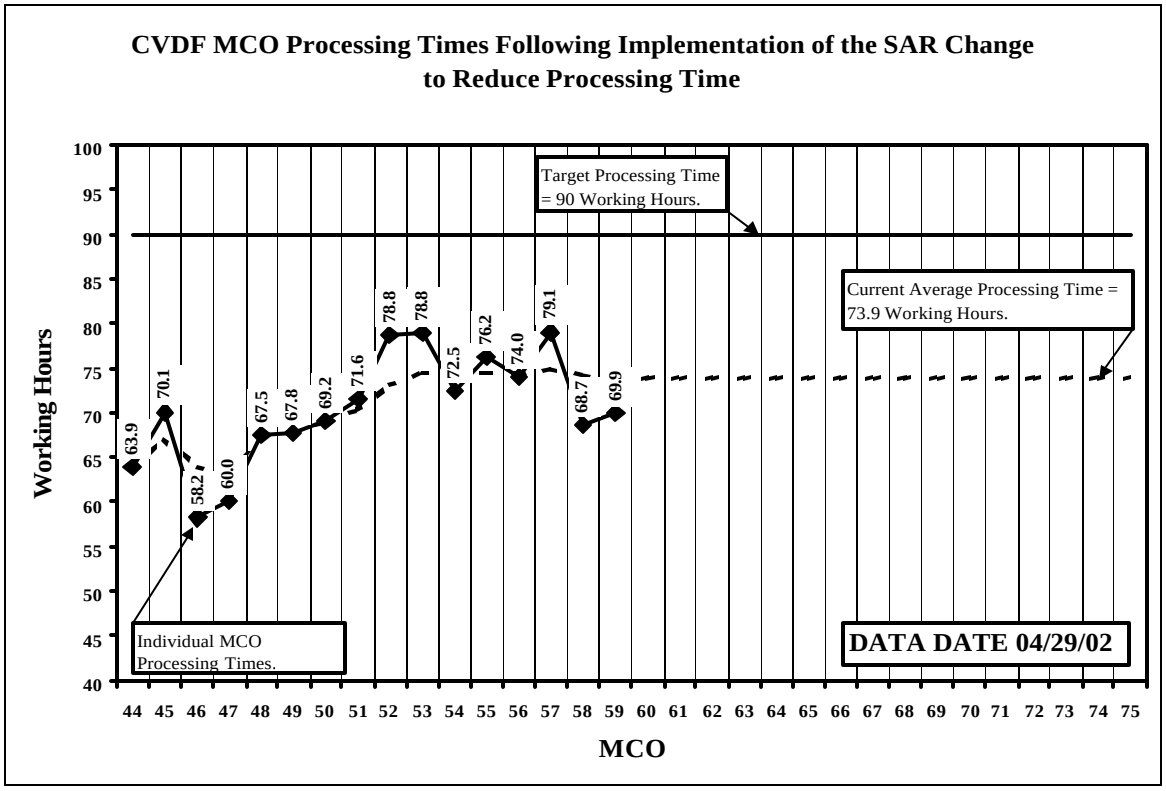
Complete construction on Fuel Transfer System (FTS) by March 30, 2002

Status: Impact to schedule as a result of late delivery of transfer system design and equipment, and unforeseen underground conditions at both basins. Receiving equipment about May 20, 2002. Forecast completion is June 11, 2002.

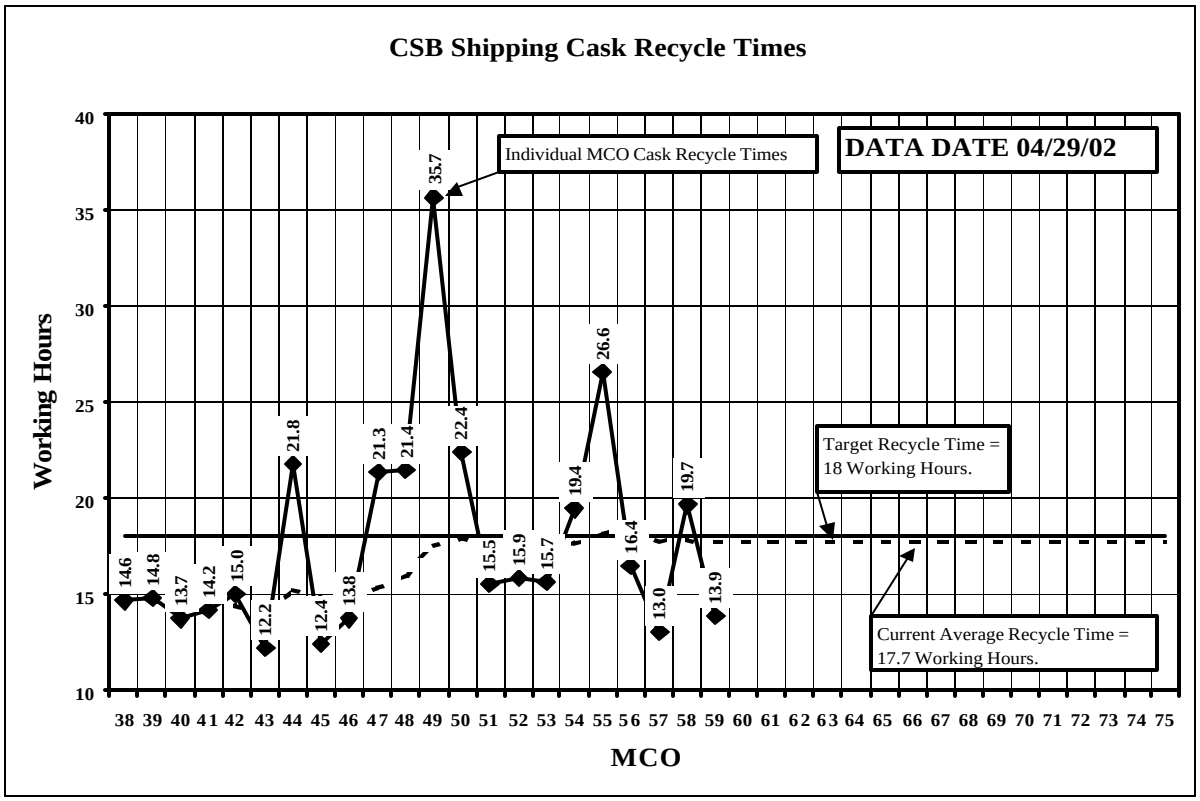


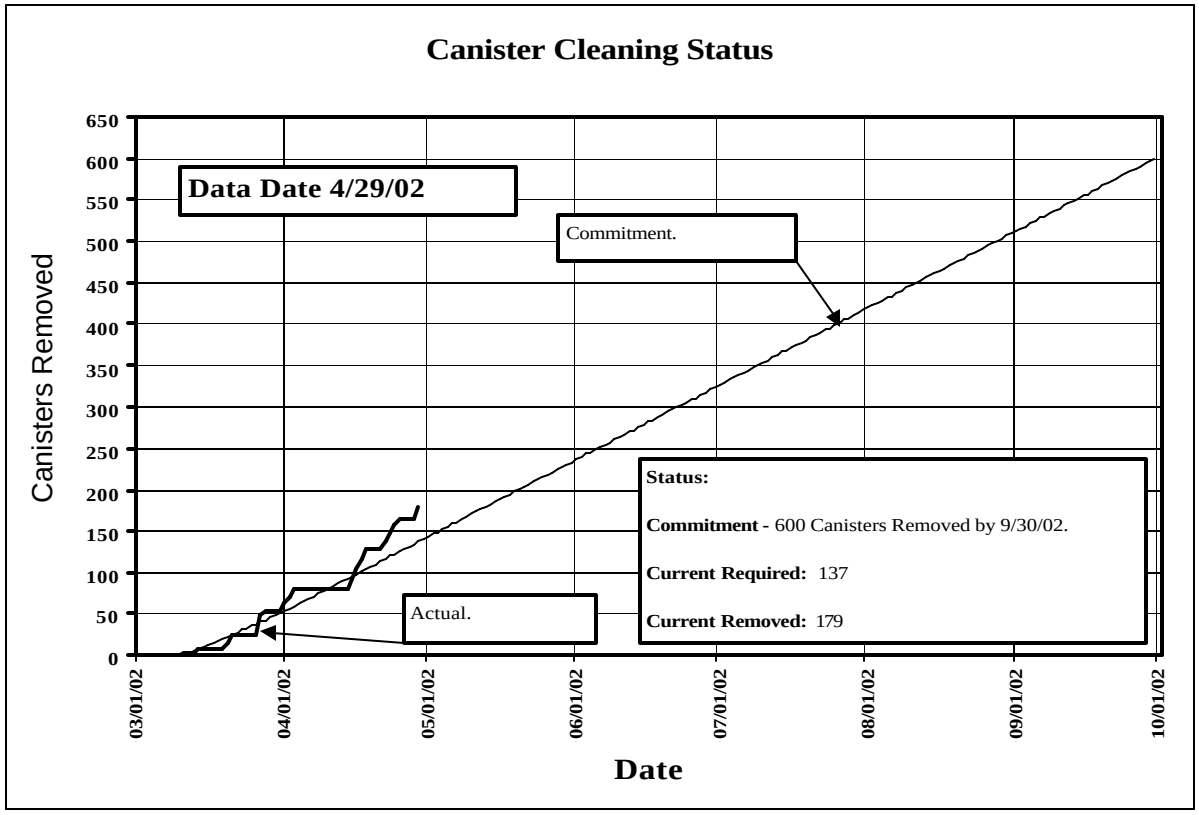
PERFORMANCE OBJECTIVES (CONTINUED)





PERFORMANCE OBJECTIVES (CONTINUED)





SCHEDULE / COST PERFORMANCE – ALL FUND TYPES
FY TO DATE STATUS ($000)

		FYTD							
	By PBS	BCWS	BCWP	ACWP	SV	%	CV	%	BAC
PBS RS03 WBS 3.2.3.1	SNF Project, 100 K Basins	$ 67,709	65,663	$ 74,370	$ (2,046)	-3%	$ (8,707)	-13%	$ 117,771
PBS RS03 WBS 3.2.3.2	Canister Storage Building (to2004)	$ 5,773	$ 5,906	$ 5,555	$ 133	2%	$ 351	6%	$ 10,032
PBS RS03 WBS 3.2.3.3	200 Intrim Storage Area (to2004)	$ 1,394	$ 1,042	$ 860	$ (352)	-25%	$ 182	17%	$ 2,935
PBS RS03 WBS 3.2.3.4	SNF Project Management and Support	$ 22,781	$ 22,789	$ 21,101	$ 8	0%	$ 1,688	7%	$ 41,446
	Total	$ 97,657	$ 95,400	$ 101,886	$ (2,257)	-2%	$ (6,486)	-7%	$ 172,184

FY TO DATE SCHEDULE / COST PERFORMANCE

The SNF Project FYTD unfavorable schedule variance is primarily driven by the following areas that are behind: FTS construction, SWS engineering, Canister Cleaning and Fuel Removal. The unfavorable cost variance is primarily driven by additional scope in FTS construction/engineering, SWS engineering and procurement, Canister Cleaning and Facility maintenance/operations.

For all active sub-PBSs and TTPs associated with the Operations/Field Office, FYTD Cost and Schedule variances exceeding + / - 10 percent or one million dollars require submission of narratives to explain the variance.

Schedule Variance Analysis: (-$2.3M)

3.2.3.1 SNF Project, 100K Area (-$2.0M)
Description /Cause: The unfavorable 3 percent schedule variance is primarily due to emergent work in FTS and SWS.
Impact: None to report.
Corrective Action: The variance will continue to exist until the work is completed in June.

3.2.3.3 200 Area Interim Storage (-$0.4M)
Description /Cause: The unfavorable 25 percent schedule variance is primarily due to delays in the transfer of PWR Core.
Impact: None to report.
Corrective Action: Completed ISA NRF TRIGA fuel dry runs and readiness assessment, which supports the SNF Project ability to begin receipt of fuel in May 2002.

FY TO DATE SCHEDULE / COST PERFORMANCE (CONTINUED)

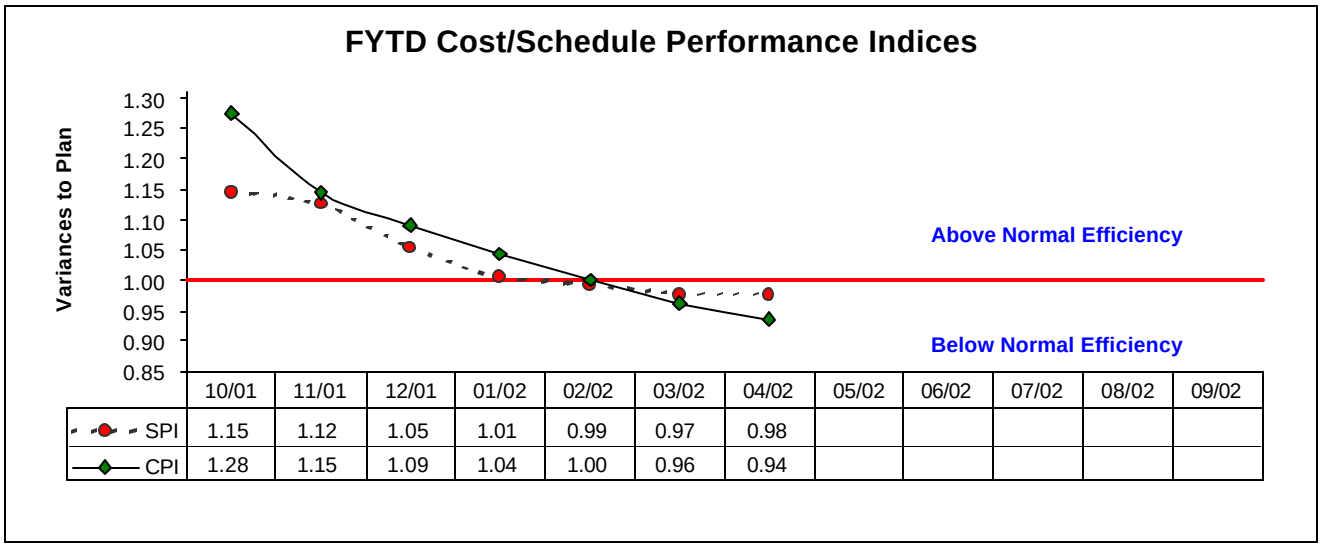
Cost Variance Analysis: (-$6.5M)

3.2.3.1 SNF Project, 100K Area (-$8.7M)
Description /Cause: The unfavorable 13 percent cost variance is primarily due to emergent work in FTS and SWS.
Impact: None to report.
Corrective Action: Identify and expedite BCRs for the scope changes in process.

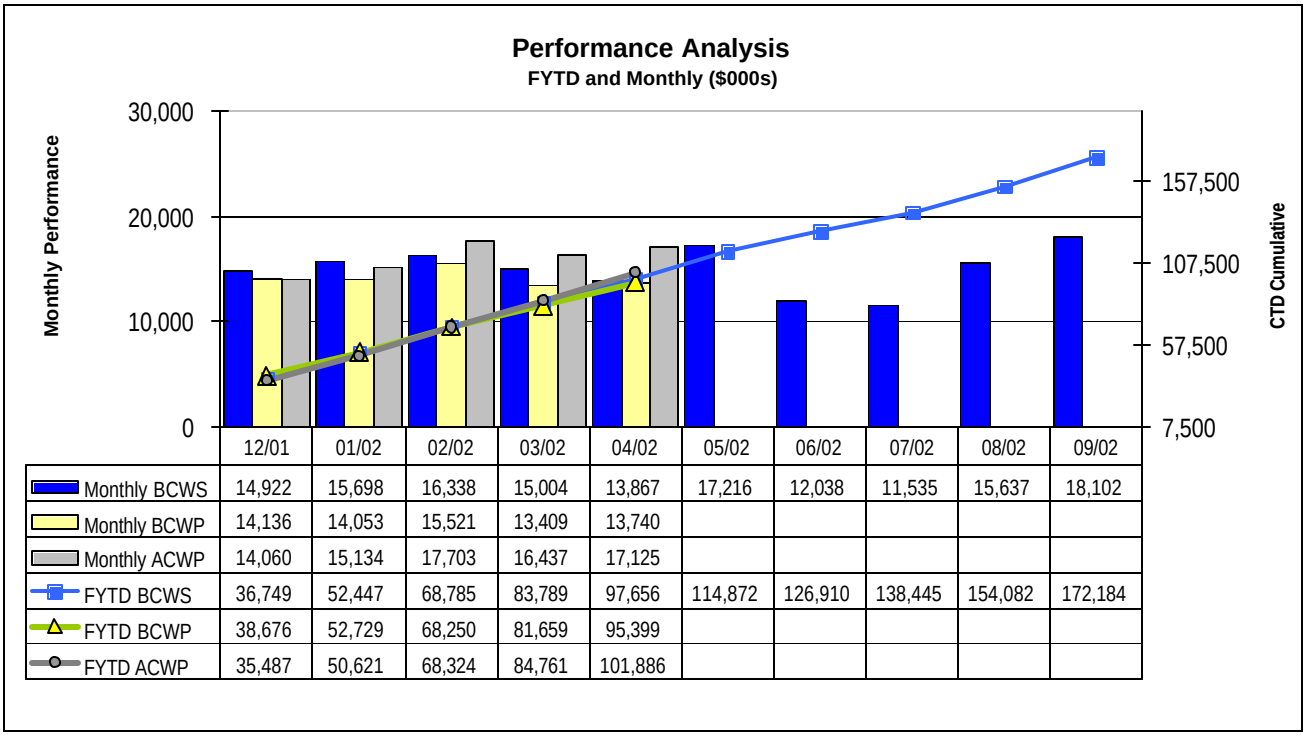
3.2.3.3 200 Interim Storage Area (+$0.2M)
Description/Cause: The favorable 18 percent cost variance is primarily due to underruns for good performance.
Impact: None to report.
Corrective Action: None required.

3.2.3.4 SNF Project Management and Support (+$1.7M)
Description/Cause: The favorable 7 percent cost variance is due to FY 2001 underruns in the infrastructure support account and project direction.
Impact: None to report.
Corrective Action: None required.

Schedule / Cost Performance (Fiscal Year to Date and Monthly)



	10/01	11/01	12/01	01/02	02/02	03/02	04/02	05/02	06/02	07/02	08/02	09/02
SPI	1.15	1.12	1.05	1.01	0.99	0.97	0.98					
CPI	1.28	1.15	1.09	1.04	1.00	0.96	0.94					



	12/01	01/02	02/02	03/02	04/02	05/02	06/02	07/02	08/02	09/02
Monthly BCWS	14,922	15,698	16,338	15,004	13,867	17,216	12,038	11,535	15,637	18,102
Monthly BCWP	14,136	14,053	15,521	13,409	13,740					
Monthly ACWP	14,060	15,134	17,703	16,437	17,125					
FYTD BCWS	36,749	52,447	68,785	83,789	97,656	114,872	126,910	138,445	154,082	172,184
FYTD BCWP	38,676	52,729	68,250	81,659	95,399					
FYTD ACWP	35,487	50,621	68,324	84,761	101,886					

FUNDS MANAGEMENT – FY 2002 TO DATE
FUNDS VS SPENDING FORECAST ($000)

	FH Funds Reallocation	FYSF	Variance
3.2.3 **Spent Nuclear Fuel**			
RS03			
Project Completion -	$ 176,161	$ 180,679	$ (4,518)
			0
Total	$ 176,161	$ 180,679	$ (4,518)

Status through 4/30/2002

ISSUES

Technical Issues

Issue: MCO number 63 did not pass its integrity test
Impact: Path forward for final disposition of MCO number 63 has not been decided.
Corrective Action: Evaluation of failure mode, root cause and option analysis for recovery actions. MCO number 63 is under surveillance in Bay two of the CVDF.

Issue: Equipment reliability continues to be a major focus for sustaining fuel movement.
Impact: Continued equipment failures may negatively impact meeting fuel movement commitments.
Corrective Actions: Primary Clean Machine (PCM) basket failure was unexpected. Modifications are being made to install the KE Basket as quickly as possible.

Regulatory, External, and DOE Issues and DOE Requests

None to report.

BASELINE CHANGE REQUESTS CURRENTLY IN PROCESS

None to report.